

**Notice of Allowability**

Application No.

10/714,735

Applicant(s)

HANDFIELD ET AL.

Examiner

Taylor Victor Oh

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/21/07.
2. ☒ The allowed claim(s) is/are 1,3,7,9,11, and 14-17, renumbered as claims 1-9.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>7/31/07</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                  | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

Reasons of Allowance

The Status of Claims

Claims 1, 3, 7, 9, 11, and 14-17 are pending.

Claims 1, 3, 7, 9, 11, and 14-17 are allowed.

I. The following is an examiner's statement of reasons for allowance:

The close prior art is Singer (US2003/0060624 A).

Singer discloses the preparation of 3-[1,3]dioxolan-2-ylidene-3H-1-carbonitrile below:

[0214] A solution of tricyclohexylphosphine (536 mg, 1.91 mmol) in tetrahydrofuran (25 mL) was charged with palladium (II) acetate (287 mg, 1.27 mmol) under nitrogen. After 1 hour the reaction mixture was cooled to 0° C. and charged with sodium tert-butoxide (31.6 g, 319 mmol). After 5 minutes a solution of 2-bromo-phenylacetonitrile (25.0 g, 128 mmol) and  $\beta$ -ethoxyacrylic acid ethyl ester (18.4 mL, 128 mmol) in tetrahydrofuran (75 mL) was added dropwise over 15 minutes. The reaction was heated to 60° C. After 2 hours 30 minutes the reaction mixture was cooled to room temperature and charged with ethylene glycol (200 mL) over 5 minutes and then charged with sulfuric acid (18.8 M, 36 mL) added dropwise over 15 minutes. After 15 hours the reaction was diluted with water (90 mL) and a solid product was filtered through a glass frit. The solid was dried under vacuum affording 3-[1,3]dioxolan-2-ylidene-3H-indene-1-carbonitrile (21.6 g, 102 mmol, 80%) as a light tan solid. The crude material was slurried in isopropanol (50 mL) for 2 hours, filtered and dried under vacuum affording 3-[1,3]dioxolan-2-ylidene-3H-indene-1-carbonitrile (20.8 g, 98.5 mmol, 77%) as a light tan solid. <sup>1</sup>H NMR (400 MHz, d<sub>6</sub>-DMSO)  $\delta$ 7.75 (s, 1H), 7.74 (d, 1H, J=7.9), 7.50 (d, 1H, J=7.1), 7.22 (m, 2H), 4.97 (t, 2H, J=7.8), 4.85 (t, 2H, J=7.8); <sup>13</sup>C NMR (100 MHz, d<sub>6</sub>-DMSO) 167.4, 136.7, 135.7, 133.1, 124.7, 123.9, 121.1, 119.4, 118.1, 97.8, 92.7, 71.1, 69.9; mp (decomposition) 228° C.

Art Unit: 1625


However, the instant invention differs from the prior art in that the use of ammonium hydroxide is not exemplified; the removal of the solvent by the distillation is not disclosed; furthermore, the declaration filed on 5/03/07 did show an unexpected result that, after the use of ammonium hydroxide and distillation step, the yield of the claimed desired product was 91.60 % compared to that of the product (77 %) from the prior art process. In addition, unless all limitations of the claims are met, there is no prior art rejection. See In re Zurko 59 USPQ 2d 1690 (Fed Cir. 1991) and In re Lee, 61 USPQ 1430 (Fed Cir. 1991).

Therefore, the claimed invention would not have been obvious to the person with an ordinary skill in the art .

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning the communication after allowance such as sending all post-allowance correspondence should be directed to " Box Issue Fee" or faxed directly to PUBS at 703-305-8755. This will expedite the process of these papers.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
TAYLOR VICTOR OH  
PRIMARY EXAMINER

8/25/07